

Notice of Allowability

Application No.

09/810,191

Examiner

J. Derek Rutten

Applicant(s)

MITSUMORI ET AL.

Art Unit

2192

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the examiner initiated interview on 6/14/2005.
2. ☒ The allowed claim(s) is/are 20, 21, and 24 (Renumbered as 1-3).
3. ☒ The drawings filed on 19 March 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____



**TUAN DAM
SUPERVISORY PATENT EXAMINER**

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in telephone interviews with John Mattingly, Reg. 30,293, on 14 June 2005, and again on 17 June 2005.

IN THE CLAIMS

Please cancel claims 22, 23, and 25, and amend claims 20, 21, and 24 as follows:

Claim 20. (Currently Amended) A compile method for generating an object program file stored in a storage device from a source program having a plurality of procedures, comprising the steps of:

by regarding procedures of said source program as source-program compile units, compiling said source program on a procedure basis to generate said plurality of object-program compile units;

in said object program file, storing said plurality of object-program compile units and said plurality of source-program compile units respectively associated with one another in said object program file, said plurality of source-program compile units being used to update said object program file on an object-program compile unit basis;

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in addition to storing said plurality of object-program compile units and said plurality of source-program compile units, storing analysis information comprising storage information relating storage locations of source-program compile units with object-program compile units, and compiler information comprising compiler version and optimization level information obtained by header analysis of said source program in a header of said object program file;

~~after making a change in said source program compile units, analyzing syntax of said source program;~~

comparing current compiler information with the compiler information stored in the object-program file header;

if the current compiler information does not coincide with the compiler information stored in the object program file header, all source-program compile units are compiled;

if the current compiler information matches the compiler information stored in the object program file header, comparing said changed source program compile units ~~analysis information~~ obtained by said ~~header~~ analysis with said source-program compile units ~~analysis information~~ stored in said object program file;

~~if both the ~~analysis information~~ source program compile units do not coincide, compiling a plurality of the source-program compile units constituting said ~~change~~ changed source program compile units, to generate a plurality of new object-program compile units; and~~

updating said plurality of source-program compile units stored in said object program file so as to be the same as said plurality of source-program compile units constituting said changed source program, updating said plurality of object-program compile units stored in said object program file so as to be the same as said new object-program compile units, and updating said

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~~storage and compiler-analysis~~ information stored in said object program file header so as to be the same as the current compiler information and a current storage information analysis ~~information thus obtained,~~

~~wherein said analysis information is a version of a compiler used for compilation.~~

Claim 21. (Currently Amended) A compiler for generating an object program file stored on a storage device from a source program having a plurality of procedures, comprising[[;]]:

an input part for inputting said source program;

a processing part for, by regarding procedures of said source program as source-program compile units, compiling said source program on a procedure basis to generate said plurality of object-program compile units;

a processing part for storing said plurality of object-program compile units and said plurality of source-program compile units respectively associated with one another in said object program file, said plurality of source-program compile units being used to update said object program file on an object-program compile unit basis;

a processing part for, in addition to storing said plurality of object-program compile units and said plurality of source-program compile units, storing ~~analysis~~ information comprising storage information relating storage locations of source-program compile units with object-program compile units, and compiler information comprising compiler version and optimization level information ~~resulting from header analysis of~~ in a header of ~~in~~ said object program file;

a processing part for ~~analyzing syntax of said source program after changes are made in said source program~~ making a change in said source program compile units;

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a processing part for comparing current compiler information with the compiler information stored in the object-program file header;

a processing part for compiling all source-program compile units if the current compiler information does not coincide with the compiler information stored in the object program file header;

a processing part for comparing said changed source program compile units analysis information ~~obtained by said header analysis~~ with said source-program compile units analysis information stored in said object program file if the current compiler information matches the compiler information stored in the object program file header;

a processing part for, if both the ~~analysis information~~ source program compile units do not coincide, compiling ~~a plurality of the~~ source-program compile units constituting said changed source program compile units, to generate a plurality of new object-program compile units;

a processing part for updating said plurality of source-program compile units stored in said object program file so as to be the same as said plurality of source-program compile units constituting said changed source program, and updating said plurality of object-program compile units stored in said object program file so as to be the same as said plurality of new object-program compile units, and updating said storage and compiler ~~analysis~~ information stored in said object program file header so as to be the same as the current compiler information and a current storage information ~~said analysis information thus obtained;~~ and

an output part for outputting said object program file
~~wherein said analysis information is a version of a compiler used for compilation.~~

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Claim 22. (Canceled)

Claim 23. (Canceled)

Claim 24. (Currently Amended) A compile program executing a compile method for generating an object program file stored on a storage device from a source program having a plurality of procedures on a computer, comprising the steps of:

by regarding procedures of said source program as source-program compile units, compiling said source program on a procedure basis to generate said plurality of object-program compile units;

in said object program file, storing said plurality of object-program compile units and said plurality of source-program compile units respectively associated with one another in said object program file, said plurality of source-program compile units being used to update said object program file on an object-program compile unit basis;

in addition to storing said plurality of object-program compile units and said plurality of source-program compile units, storing ~~analysis~~ information comprising storage information relating storage locations of source-program compile units with object-program compile units, and compiler information comprising compiler version and optimization level information ~~obtained by header analysis of said source program in a header of said object program file;~~

~~after making a change in said source program~~ compile units, ~~analyzing syntax of said~~
~~source program;~~

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comparing current compiler information with the compiler information stored in the object-program file header;

if the current compiler information does not coincide with the compiler information stored in the object program file header, all source-program compile units are compiled;

if the current compiler information matches the compiler information stored in the object program file header, comparing said ~~changed~~ source program compile units analysis information obtained by said ~~header~~ analysis with said source-program compile units analysis information stored in said object program file;

if both the ~~analysis information~~ source program compile units do not coincide, compiling a plurality of ~~the~~ source-program compile units constituting said ~~change~~ ~~changed~~ source program compile units, to generate a plurality of new object-program compile units; and

updating said plurality of source-program compile units stored in said object program file so as to be the same as said plurality of source-program compile units constituting said changed source program, updating said plurality of object-program compile units stored in said object program file so as to be the same as said new object-program compile units, and updating said storage and compiler-analysis information stored in said object program file header so as to be the same as the current compiler information and a current storage information analysis ~~information thus obtained,~~

~~wherein said analysis information is a version of a compiler used for compilation.~~

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Claim 25. (Canceled)

END EXAMINER'S AMENDMENT

Allowable Subject Matter

2. Claims 20, 21, and 24 are allowed.
3. The following is an examiner's statement of reasons for allowance: The examiner indicated that this application would be in condition for allowance if the independent claims 20, 21, and 24 are amended to include the features of storing object-program compile units and source-program compile units associated with one another together in an object program file, along with storage and compiler information stored in a header of the object program file, using this information to determine what parts of the program to compile upon a change in one of the elements, and storing the changes in the object program file. The above features, taken in combination with all remaining features of the independent claim are not taught or suggested by the prior art of record. The applicant agreed to amend the independent claims 20, 21, and 24 as indicated by the examiner.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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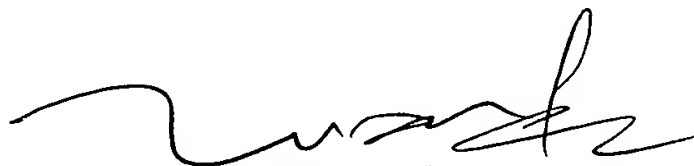
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Derek Rutten whose telephone number is (571) 272-3703. The examiner can normally be reached on T-F 6:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (571) 272-3695. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jdr


TUAN DAM
SUPERVISORY PATENT EXAMINER